Thank you for purchasing our product.
Please read this User's Manual before
using the product. Change without Notice

<u>8 Channel Digital Video Recorder</u>

User's Manual

CE FC

⚡ **CAUTION**
RISK OF ELECTRICAL
SHOCK. DO NOT OPEN !

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DO NOT REMOVE COVER (OR BACK), NO USER
SERVICEABLE PARTS REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insulated dangerous Voltage within the product's enclosure that may be sufficient magnitude to constitute risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE UNITS NOT SPECIFICALLY DESIGNED FOR

Attention: installation should be performed by qualified service Personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is the ON position. The power cord is the main power disconnect for all unites.

| Warranty and Service |

There are no serviceable parts for this unit, call for your agent for details.

About this document

Before installing stand alone DVR, be sure to thoroughly review and follow the instructions in this Users Manual. Pay particular attention to the parts that are marked **NOTICE**.
Also, when connecting with external application, first turn the power OFF and follow manual instruction for appropriate installation.

Before reading this document

1. This document is intended for both the administrator and users of stand alone DVR Model.
2. This manual contains information for configuring, managing and using stand alone DVR Model.
3. To prevent fire or electrical shock, do not expose the product to heat or moisture
4. Be sure to read this manual before using stand alone DVR Model.
5. For questions and technical assistance of this product, contact your local dealer.

   ►Strong recommendation on installation of the DVR unit

1. Check electricity at the place you want to install the DVR unit is stable and meets our electricity requirements. Unstable electricity will cause malfunction of the unit or give critical damage to the unit.
2. Several chips on the main board of the DVR unit and hard disk drive inside the unit generate heat, and it must be properly discharged. Do not put any objects just beside exhaust port(fan) on the left side of the unit and do not close up an opening (fresh air in-take) on the right side of the unit..
3. Put the DVR unit at well-ventilated place and do not put heat-generating objects on the unit. When it is installed inside 19 inch mounting rack together with other devices, please check built-in ventilation fan of the rack is properly running.

FCC Statement:

WARNING

This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received including interference that may cause undesired operation."

*** Federal Communications Commission (FCC) Statement**

WARNING

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from
  that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

* You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

FRONT PANEL
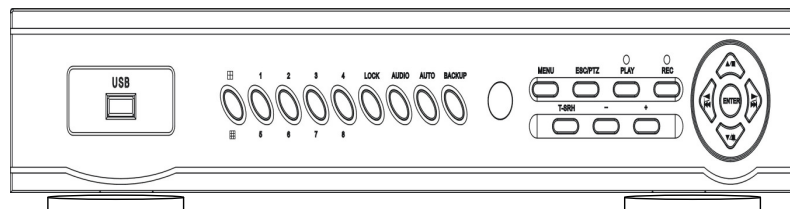
1. ⊞ / ⊞ : Quad screen mode button
2. **CHANNEL 1 / 5** : Channel 1 / 5 full screen button
3. **CHANNEL 2 / 6** : Channel 2 / 6 full screen button
4. **CHANNEL 3 / 7** : Channel 3 / 7 full screen button
5. **CHANNEL 4 / 8** : Channel 4 / 8 full screen button
6. **LOCK** : Press this button to Key Lock function
7. **AUDIO** : Audio on or off button
8. **AUTO** : Auto sequence mode
9. **BACKUP** : Image backup button
10. **UP / STOP** : Direction button UP / Playback stop button ▲ / ■
11. **DOWN / PAUSE** : Direction button down / Playback pause ▼ / ▮▮ (Step play)
12. **REW / LEFT** : Reverse playback choose button / play speed ◀ / ◀◀
13. **FF / RIGHT** : Forward playback choose button / play speed ▶ / ▶▶
14. **ENTER** : Enter button or value change(+) / Shift mode(S)
15. **MENU BUTTON** : Press this button to display the menu setup
16. **ESC / PTZ** : Press this button to exit menu / PTZ mode
17. **T-SRH** : Press this button to playback time search
18. **PLAY BUTTON** : Press this button to playback
19. **+ BUTTON** : Increase + values change.
20. **REC BUTTON** : Press this button to start recording image
21. **- BUTTON** : Reduce - values change
22. **USB 2.0** : Pan Driver slot ▭

*User needs to plug in USB again if ActiveX loaded; image backup or version updated.

REAR PANEL
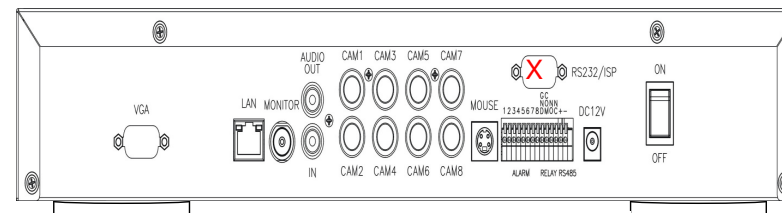
 Power code in 12V/5A, power switcher (ON / OFF)
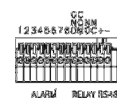
 Camera 1 ~ 8 input BNC type

 Monitor out   VGA out (Optional)

 Audio channel input x 1 and output x 1

 Alarm / Relay / RS 485 connector

 RJ-45 (Network connector)

 PS 2 type mouse connector

RS232/ISP: Not available

DVR Initialing   **or detect a new hard disk**

```
SDK (FW:1.00 UCODE:84)

VIDEO: NTSC
DISK0: 157066MB HDS722516VLAT20
READ REC INFO...Done.
DISK1: NONE

[PAUSE] to stop
```

Notice

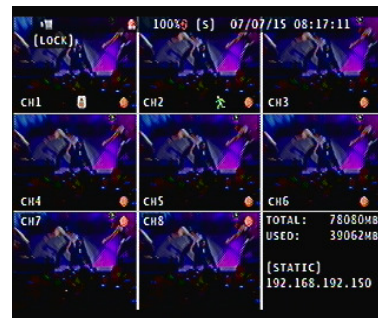Please set HDD to Master if only one installed.

```
SDK (FW:1.00 UCODE:84)

VIDEO: NTSC
DISK0:  76319MB ST380215A
New Disk
DISK1: NONE
NEW HDD
        ALL DATA WILL BE LOST !
-- [PLAY] FORMAT , [STOP] CANCEL --
```

```
SDK (FW:1.00 UCODE:84)

VIDEO: NTSC
DISK0:  76319MB ST380215A
New Disk
DISK1: NONE
NEW HDD
        ALL DATA WILL BE LOST !
-- [PLAY] FORMAT , [STOP] CANCEL --
FORMAT...COMPLETED

[PAUSE] to stop
```

Live screen

Recording icon   Overwrite

Motion   Alarm   Event (Motion / Alarm)

Video loss

Keypad lock * 111111 is the default password

On live, press Enter button to (Shift) mode + 1; 2; 3 ; 4 switch to 5; 6; 7; 8 full screen.

Hard Disk capacity; Hard Disk capacity used; Network Type and IP address information

---

Mouse Control

① Screen display	1. Double-click of the left button on desired camera to full channel
	2. Double-click of the left button on desired camera to 9 split screen
③ Menu display	1. One-click of the right button to menu OSD
	2. Back to last OSD page
② None	No function
① Select	1. One-click on the item of OSD
	2. One-click on the value of item
	3. One-click on the Exit to quit and save menu
	4. From right-up to left-below and the set motion detect area
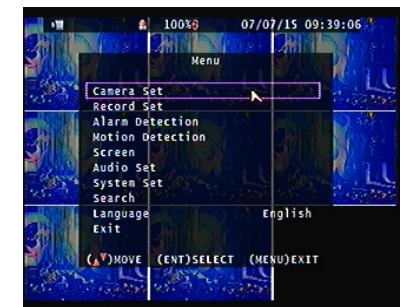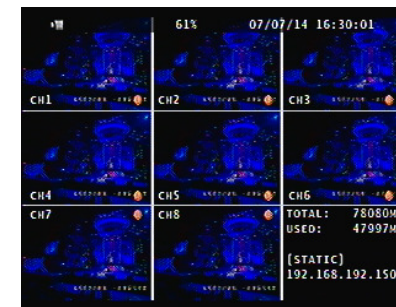
Operate:

MENU BUTTON   : Press MENU button to enter menu setup or exit

ESC / PTZ   : Press ESC button to exit menu / To PTZ control mode

ENTER BUTTON   : Press Enter button to confirm set or value change(+) / Shift mode

DIRECTION BUTTON : MENU item select

+ BUTTON   : Increase + values change

- BUTTON   : Reduce - values change

BACKUP   : To backup mode

( ) MOVE   (ENT) SELECT   (MENU) EXIT

Remote controller (Optional):

The key on the remote controller function control is same as DVR keypad. Only a few keys are no avail.

Channel select 1 ~ 8 camera

Quad / **Split screen**
PIP: Audio hot key
Auto: Channel sequence

UP : STOP : Direction button UP / Playback stop button
REW : Reverse playback choose button
DOWN / PAUSE : Direction button down / Playback pause
FF : Forward playback choose button
ENTER : Enter button or value change / Shift mode

MENU BUTTON : Press this button to display the menu setup
BKUP : Image backup button
ESC / PTZ : Press this button to exit menu / PTZ mode
T-SRH : Press this button to playback time search
PLAY : Press this button to playback
REC BUTTON : Press this button to start recording image
+ BUTTON : Increase + values change ▷
- BUTTON : Reduce - values change ◁

Main MENU – Camera Set
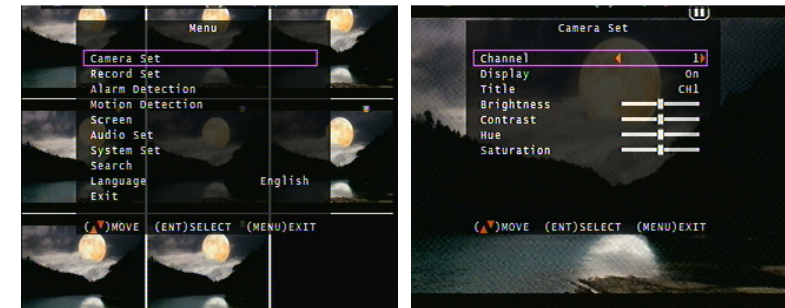
Right adjustment of each element will increase picture quarterly displayed. We recommend you to adjust each element of cameras and monitor to be connected to the DVR unit.

Main MENU – Camera Set – Display (Channel mask, but it still do recording.)
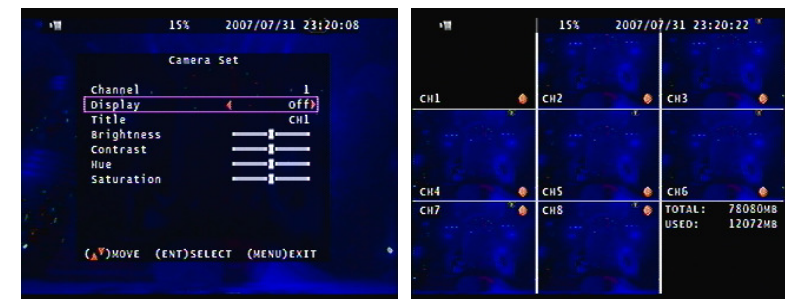
Main MENU – Camera Set – Title

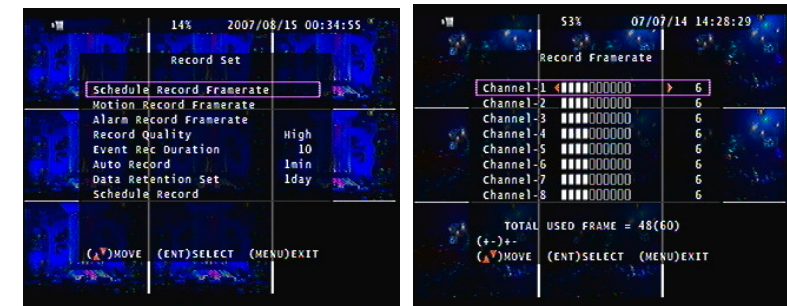Camera title setup function allows 5 characters for each channel.

Select Shift to next page and then Enter to confirm camera title.
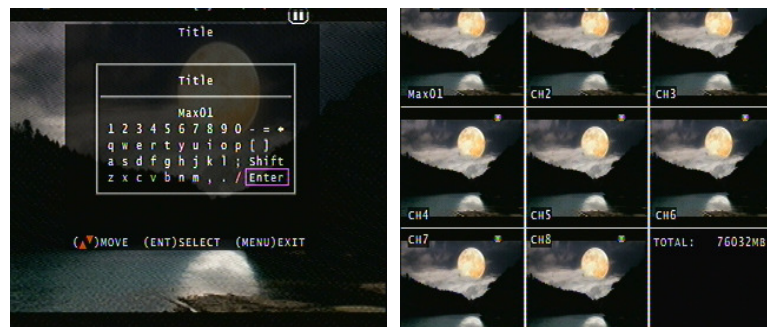
Main Menu – Record Set
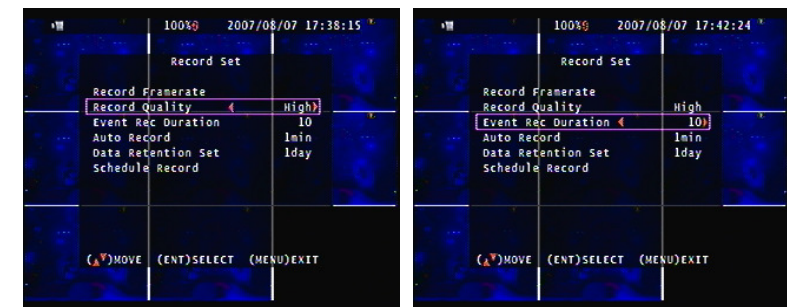
Record Set – Record Framerate

Record Set – Record Quality

High / Normal / Low

Record Set – Event Rec Duration

5 / 10 / 15 / 20 / 25 / 30

Record Set – Auto Record

After 1 ~ 8 minutes, auto start to record if no operation.

Record Set - Data Retention Set

1 ~ 15 days
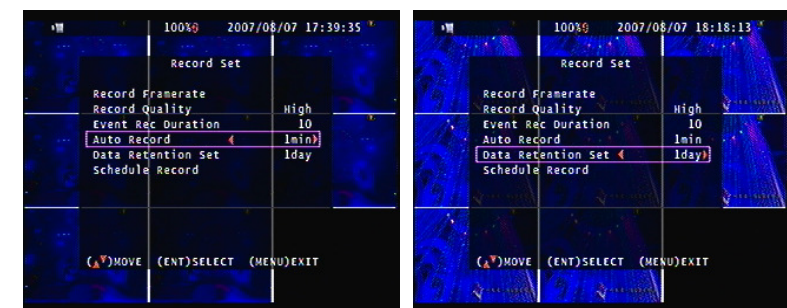
Record Set – Schedule Record

Notice:

1. Each channel has own frame rate adjustment of each recording mode.

2. In 24 hours, user can adjust each channel frame rate of different record mode. Such as

   schedule, motion detection, and alarm record more.

3. Press ⊞ button to change different of record modes.

1. Schedule record mode   2. Motion record mode

3. Alarm record mode   4. Motion + Alarm + Schedule record mode
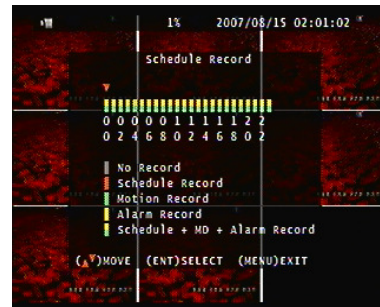
Record Time Table: 80GB HD

Record Quality: Low. Half D1 Average: 5 KB;

REC FPS	60	30	15	10
REC Hour	72	148	296	444

Record Quality: Normal. Half D1 Average 10 KB;

REC FPS	60	30	15	10
REC Hour	36	74	148	222

Record Quality: High. Half D1 Average 20 KB;

REC FPS	60	30	15	10
REC Hour	18	37	74	111

Actual recording time is base on live environment. This table is only for reference.

20 K x 30 (frame rate) x 60 (mins) x 60 (secs) = 2160000 K = 2160 M / hr

2160 M / hr x 24 = 51840000 K = 51840 M = 51.84 G / (1 Day)

Main Menu – Alarm Detection
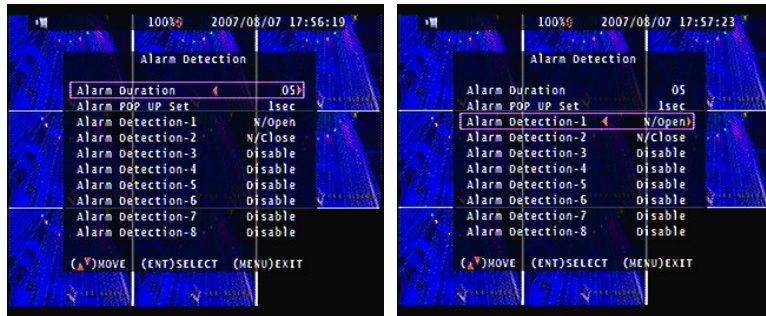
Alarm Signal type depends on Alarm Sensor polarity define on NO (N/Open) or NC (N/Close) mode. Alarm POP UP: Event channel jump to full screen when alarm triggered. 9 Split screen with the alarm symbol if there is more than two cameras triggered.
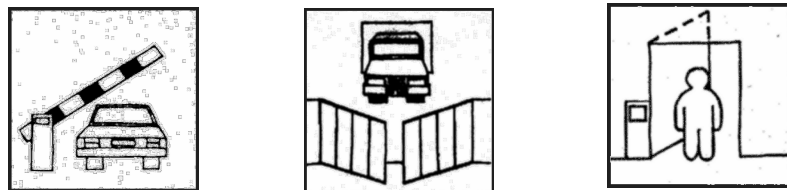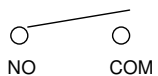

Door closed   Door open
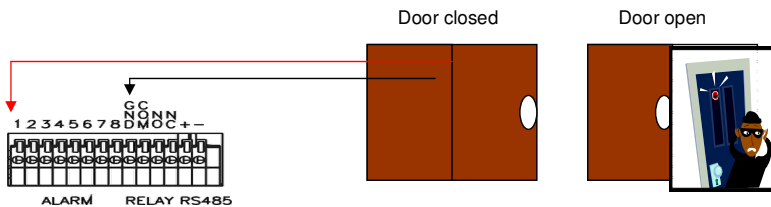
Relay: NO + COM or NC + COM

Alarm Signal type depends on Alarm Sensor polarity define on NO (N/Open) or NC (N/Close) mode.

NO + COM: Normally, motion relay is NO + COM connector.

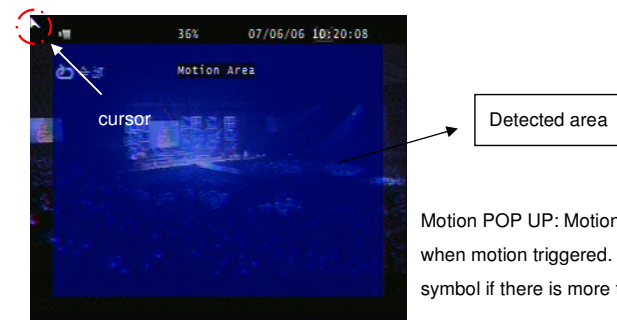**Relay action:**

Relay: NO (Normal open)   Alarm trigger   Relay: NC (Normal Close)

NO   COM   NC   COM
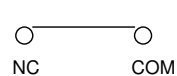
Main Menu – Motion Detection

Main Menu – Motion Detection – Motion Area

cursor
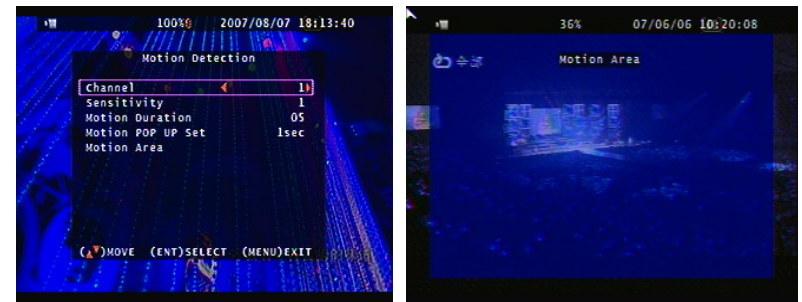
Detected area

Motion POP UP: Motion channel jumps to full screen when motion triggered. 9 Split screen with an alarm symbol if there is more than two cameras.

Main Menu – Motion Detection – Motion area selection

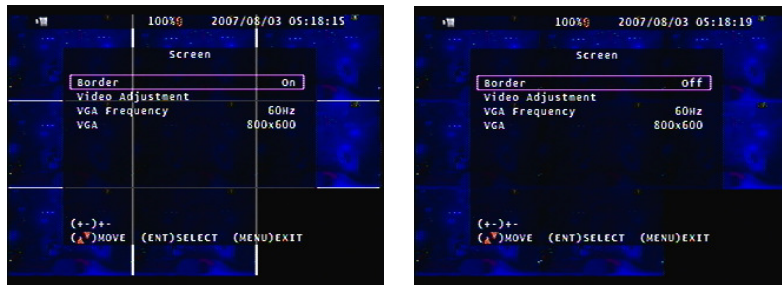Direction button Left or Right + ENTER to cancel detection area.

Select start (right-up corner) point and end (left-below corner) point of detect area.
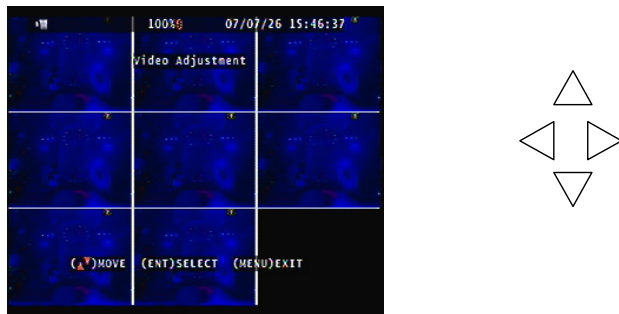

One-click of the mouse left button to cancel detect area.

Select start (right-up corner) point and end (left-below corner) point of detect area.
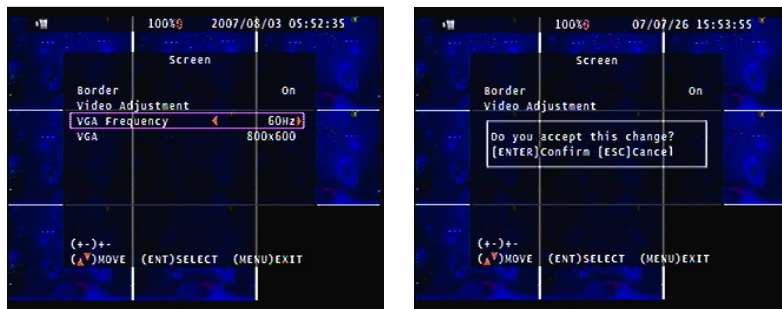
Main Menu – Screen – Border: Quad border On / Off display

Main Menu – Screen – Video Adjustment: Video screen position movement
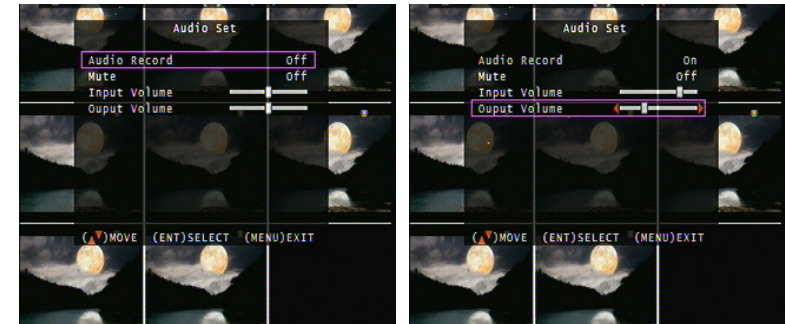

Main Menu – Screen – VGA Frequency and VGA

After adjusted, press ENTER to see if it has change the dialogue resolution, press ENTER to change, press ESC to cancel. If user does not make any change, the mode will change back to last status after 15 seconds.
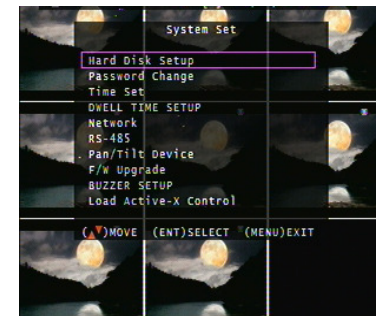
DVR needs to reboot if 1280x1024 resolution adjusted.

Main Menu – Audio Set

- If microphone, audio line in or any how, user please set the audio record mode to on and also adjust volume input or output to right sound effects.

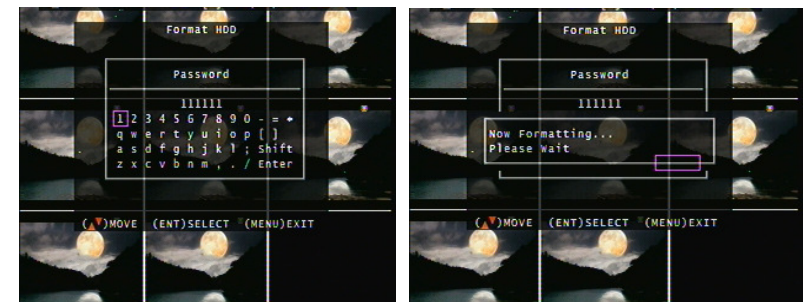- Mute means live audio is turn on or quiet.

Main Menu – System Set – Hard Disk   **Main Menu – System Set – Format HDD**

**Main Menu – System Set – Hard Disk Setup – Format HDD – Password**

HDD was formatted successful.

- Before hard disk format, user needs to put the right password. The password is same as
  unlock which is default 111111.
- Please set HDD to Master if only one installed. Second one to Slave.
- Hard Disk Master and Slave jumper pin must right, otherwise it makes DVR work fault.

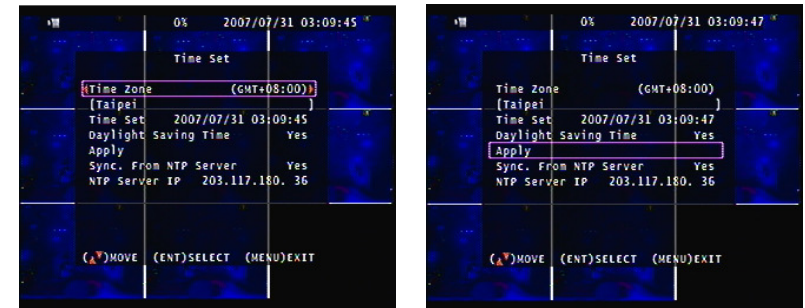**Main Menu – System Set – Security Protection - Password Change**
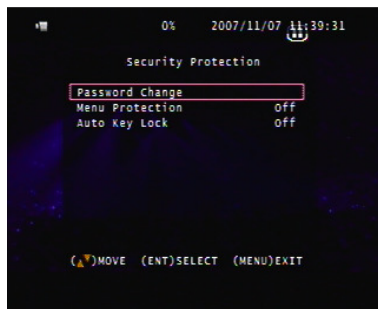
Menu Protection:
On / Off. User needs to login password before enter to menu.

Auto Key Lock:
After 1 ~ 60 seconds system automatically key lock which means before operate DVR user
needs to unlock.

Main Menu – System Set – Time Set

Select time zone and auto time synchronization with NTP server. Network is required on NTP
server. NTP server does not work under network DHCP mode. After time set or daylight mode
turns to on, user needs to Apply and confirm. 0 ~ 9 is repeatable with increase + button,
And decrease - button is opposite.

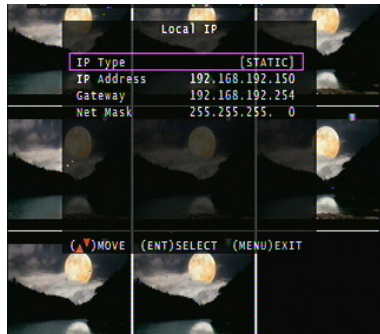**Main Menu – System Set – Dwell Time Setup** (Channel auto sequence)
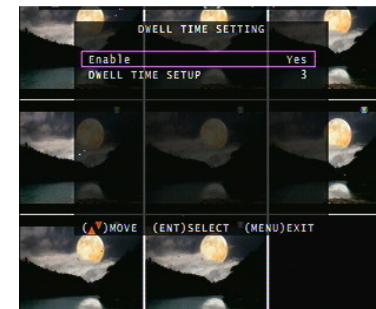
Main Menu – System Set – Network Settings   Network Settings – Local IP
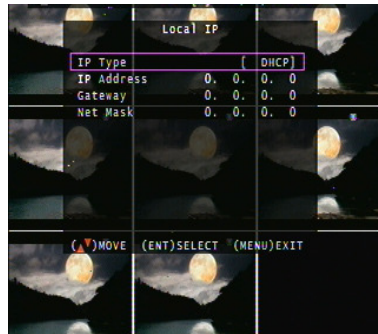
Network Settings – Local IP – STATIC

Select static IP address / Gateway / Net Mask

Network Settings – Local IP – DHCP

Auto IP detected under IP sharing or router

Main Menu – System Set – Network – PPPOE

Main Menu – System Set – Network – PPPOE – ID

Main Menu – System Set – Network – PPPOE – Password

Input PPPoE account and password. And then save & exit menu. After a while, back to network set again, user would see IP appears.

IP would not correctly appear on screen if any firewall or router authority management.

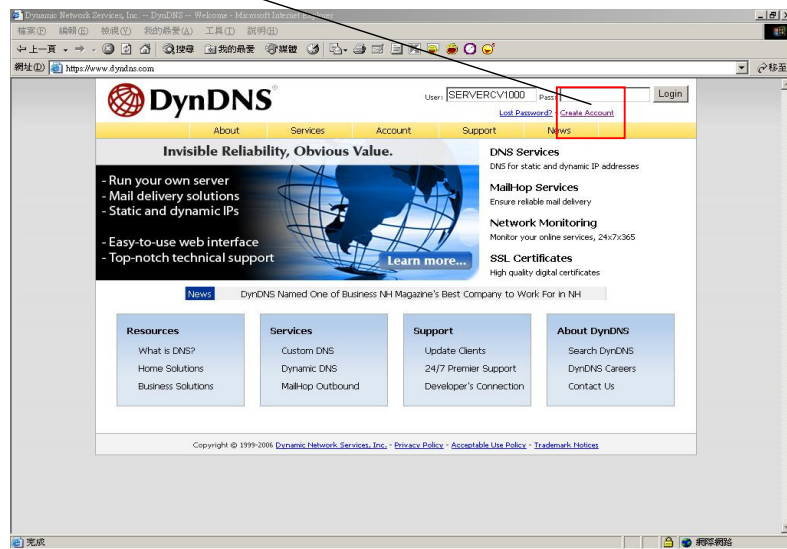User type the IP to Net viewer or IE browser to view image via network.

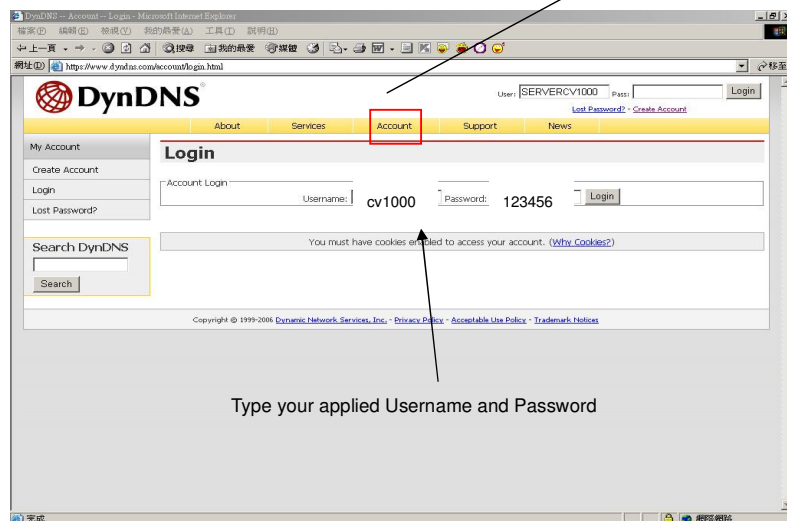**Main Menu – System Set – Network – D/DNS set**

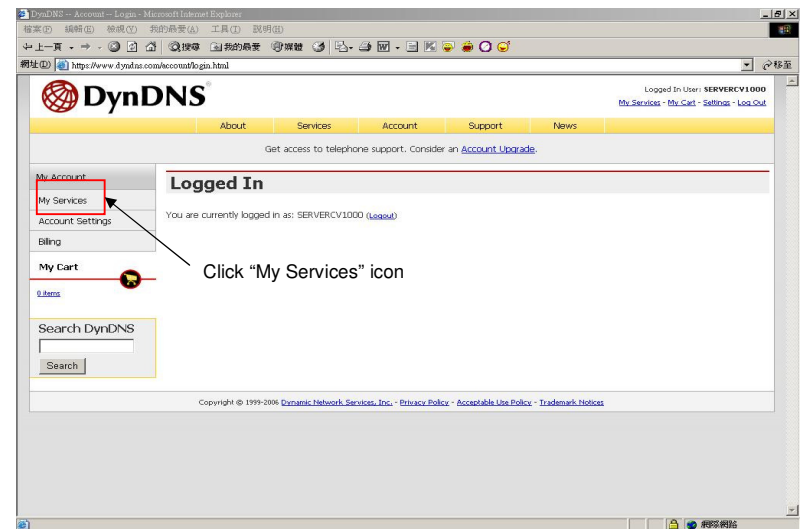Ex: Enter in www.dyndns.com to apply a free account and host name.

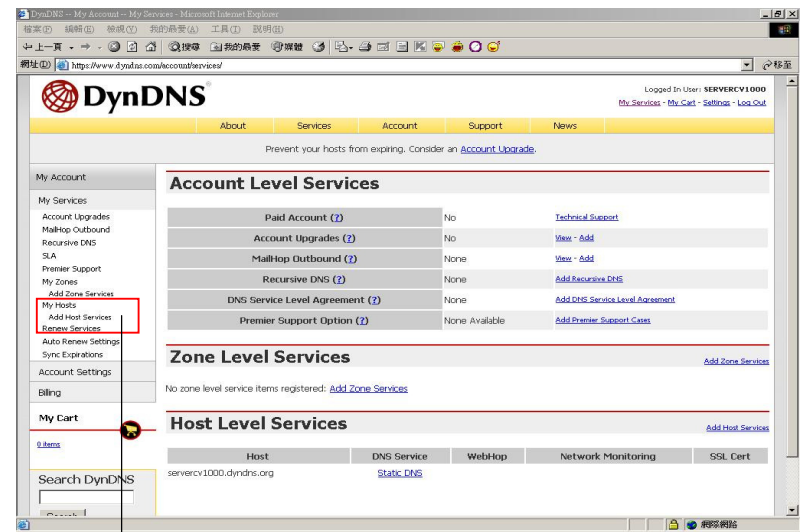Click Create Account to make a new ID name.

Fill in all the personal information, password, email requested; please go to user's email

account to active your new account. Return to DynDNS website; click Account to long in page.

Type your applied Username and Password
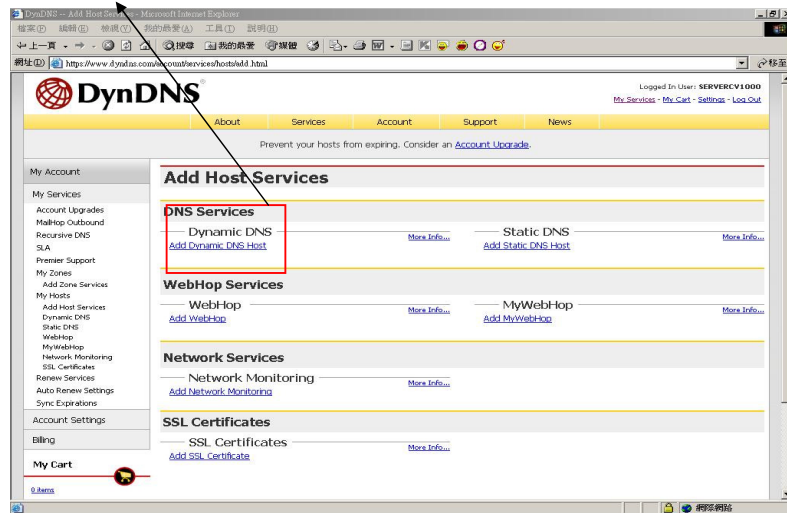
Logged In page

Click "My Services" icon
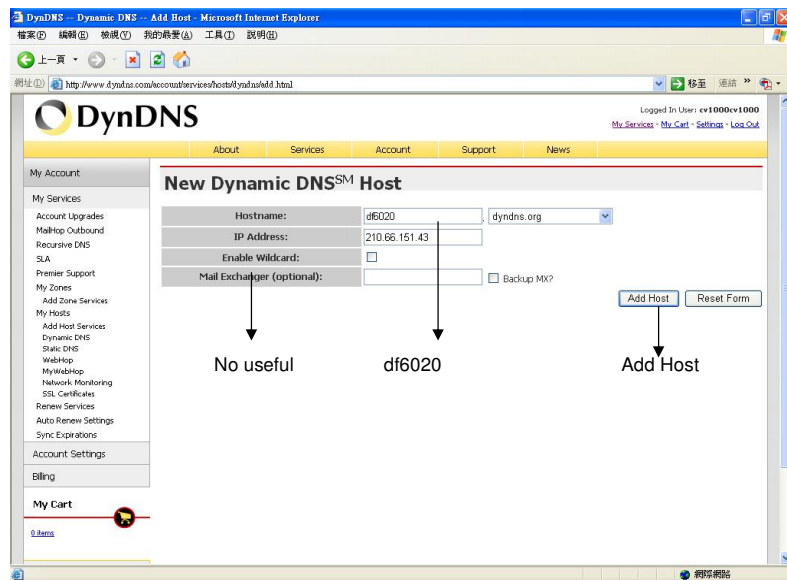
Click Add Host Services:

Click "Add Host Service"

Add static DNS Host:

Select Static DNS: add Static DNS Host

Type a Hostname user decided.

No useful   df6020   Add Host

Ex: Create a new df6020 host name, after add a new host name; DynDNS page shows a confirm message page.
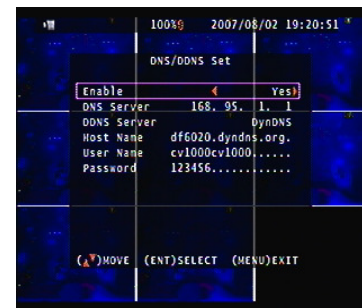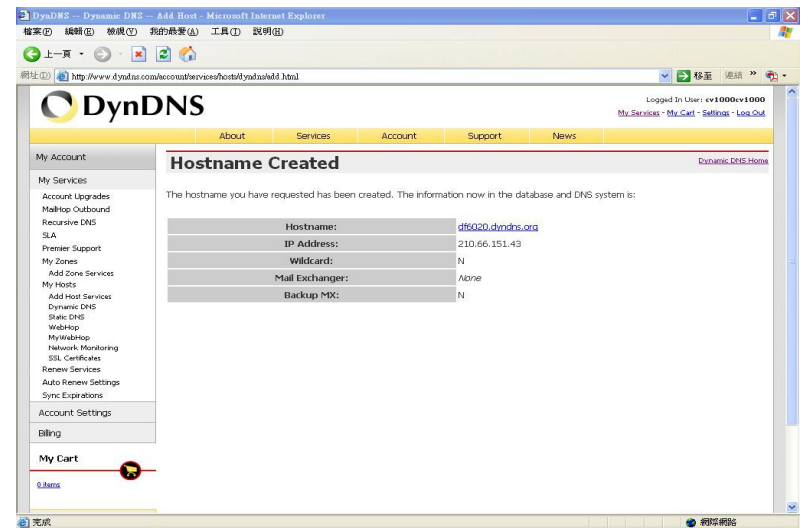
Enable :   YES
DNS Server: From ISP
DDNS Server: DynDNS.
HOST Name: Insert host name
User Name: Insert DynDNS username
Password: Insert DynDNS password

On IE browser blank bar, type df6020.dyndns.org; and then user can get on line.
DNS address is required.
Network stream speed depends on the locality bandwidth.
Advice user apply network speed Upload 512K / Download 512K or more, to avoid image data too big influence the remote quality.
DNS only works under DDNS mode.

Main Menu – System Set – RS-485

It follows the camera baud rate

Don't care

Don't care

Don't care

Main Menu – System Set – Pan/Tilt Device

Control: Keypad, mouse

* Mouse control: press ESC to PTZ mode, press AUTO button, and then once-click left button of mouse to control PTZ movement.

Press quad button + number 1 ~ 4 button to set presets, press AUDIO + 1 ~ 4 to call preset.

Press AUTO to start auto presets, AUTO again to cancel.

Up/Down/Left/Right: PTZ dome direction control

+ / - : Zoom in / Zoom out

Main Menu – System Set – F/W Upgrade

Stop all hard disk working before update, select F/W upgrade and then press ENTER to search firmware.
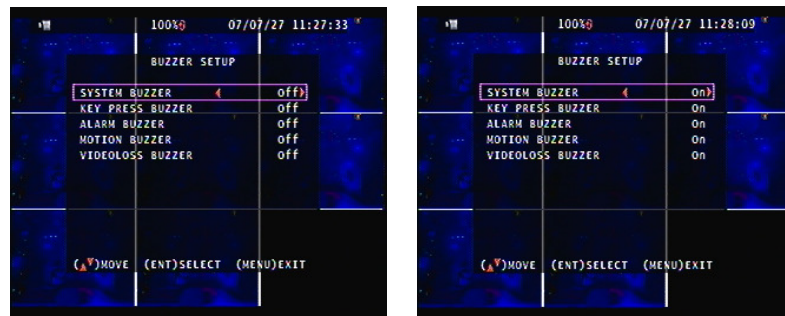

Press PLAY to start version update.
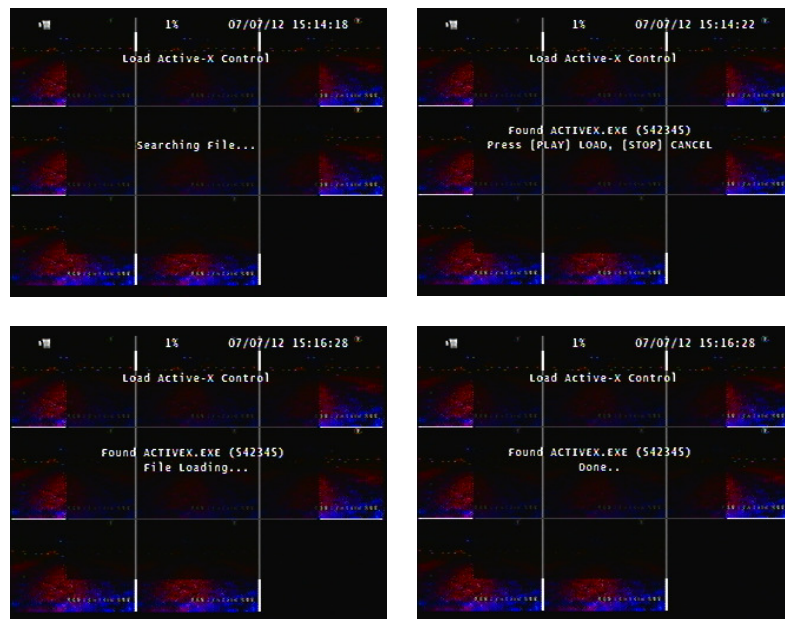

DVR auto reboot after version update.

HDD needs to be installed before update.

Main Menu – System Set – BUZZER SETUP

Main Menu – System Set – Load Active-X Control

Stop all hard disk working before load Active-X control

1. Before DVR IE connection, please download the ActiveX to DVR hard disk from CD-ROM, and then you can view DVR image via internet any PC.

   Steps: CD disk → ActiveX →USB pan drive → DVR (with hard disk) USB →

   Menu - System Set – Load Active-X Control → ENTER button

2. Also install ActiveX to your personal computer. Net viewer is packaged with ActiveX.exe.

Main Menu – Search　　　　　　　　　**Main Menu – Search – TIME LIST**
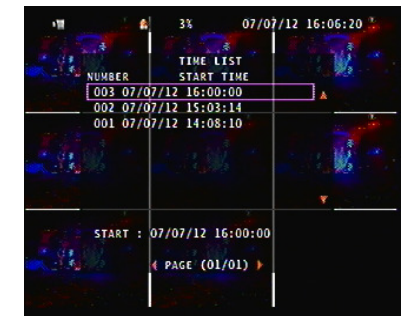
Main Menu – Search – Event List

Main Menu – Search – Time Search

Press ENTER to select date and time. Direction left and right button to move value item.

ENTER or + / - button to change value.

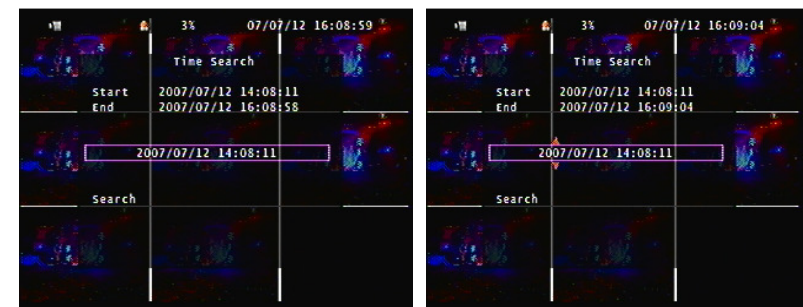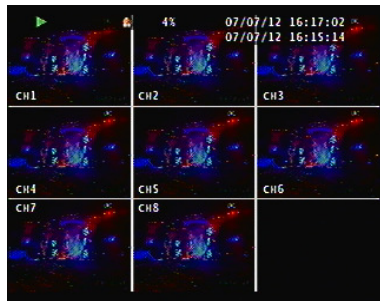**Main Menu – Search – Time Search: after date and time select, go to Search and then press ENTER to start playback.**

Playing

Forward speed: x 2 / x 3 / x 4   (Direction right button)
Reverse speed: x 8 / x 16 / x 32 (Direction left button)

Press STOP to search list, press ESC to live mode.

Backup mode: Before backup, USB pan driver is required.
Mode 1: On live mode, press backup button to file backup page.

Total hard disk date & time range

Select start and end time of backup

After select backup time, apply to count data size. After size appears, press backup button to USB page.
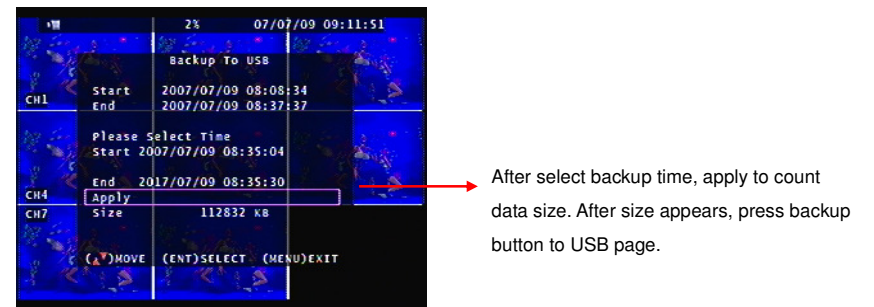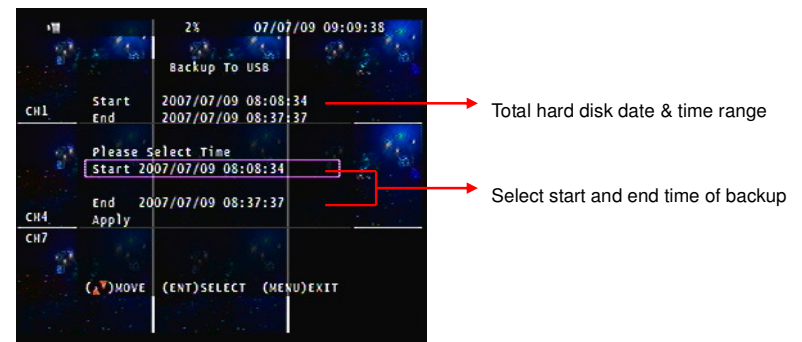
DVR is reading pan driver

After a while, all backup information display on screen, user now can press backup button to start file backup.

Data is writing to USB pan drive, users please wait until backup complete. Press menu button to quit USB page.

Mode 2: Press play button to start playback, the playback beginning time is the last one hour record. Press + and – to select backup time. User only can increase seconds in this backup way. Press backup button to USB page which is same as mode 1.
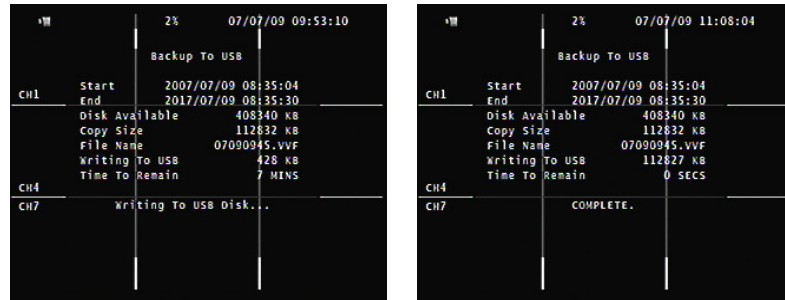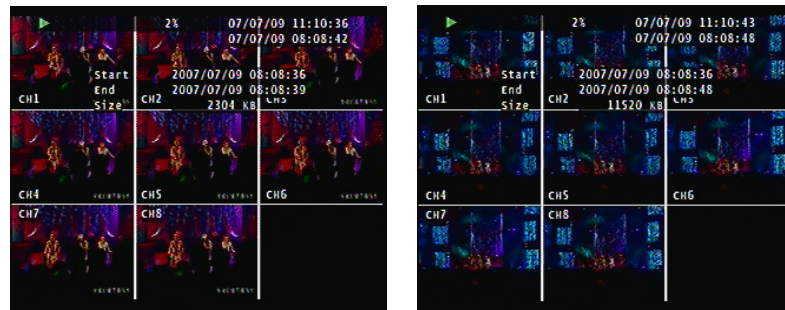

Mode 3: On mode 2, user can press T-SRH button to the page like mode 1, and then to mode 3.

Here, user only can adjust End date and time, after the back way is same as mode 1.

Mode 4: On event list, choose an event record data, and then press backup button. Pages go to USB page, after data size appears, press backup button to the page which is same as mode 1

Main Menu – Language – English or Chinese

Main Menu – Exit
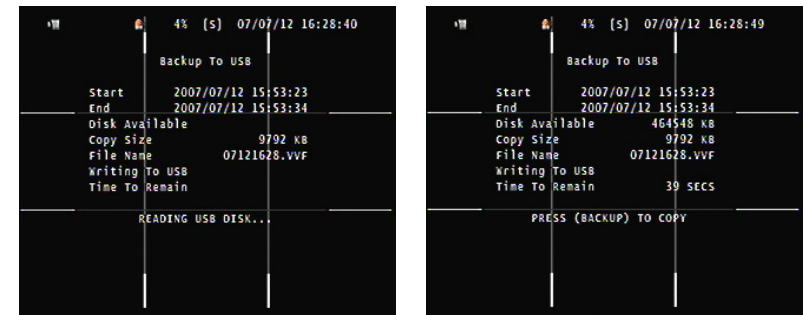

User needs to save changes if any function value has changed. And then exit menu.

Operate:

MENU BUTTON	: Press MENU button to enter menu setup or exit
ESC BUTTON	: Press ESC button to exit menu / PTZ mode
ENTER BUTTON	: Press Enter button to confirm set or value change(+) / Shift mode
DIRECTION BUTTON	: MENU item select
+ BUTTON	: Increase + values change
- BUTTON	: Reduce - values change
BACKUP	: To backup mode

(△▽) MOVE   (ENT) SELECT   (MENU) EXIT

Net viewer
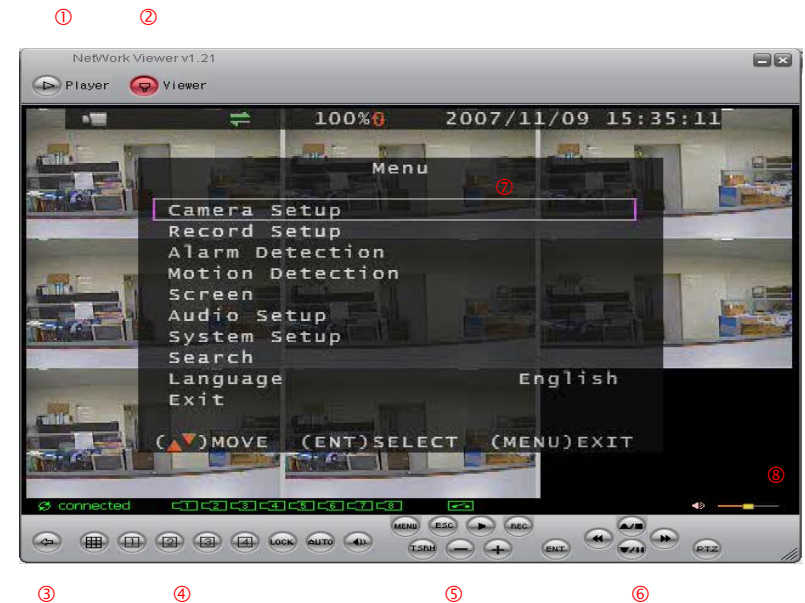
Viewer function:

1. Backup file player
2. Network viewer
3. Connection

DVR control via viewer:*

4. DVR screen: Split, Channel full screen / Key lock / Channel auto sequence.

   Audio ON : stream speed – not good. OFF : stream speed – good

5. DVR function: MENU / ESC / Play / REC / T-SRH / - values change / + values change

6. DVR direction button: Up (Item select, Play Stop) / Down (Item select, Play Pause)

   Left (Item select, Play Reverse) / Right (Item select, Play Forward)

   ENT (ENTER): Item confirm/select, values change)

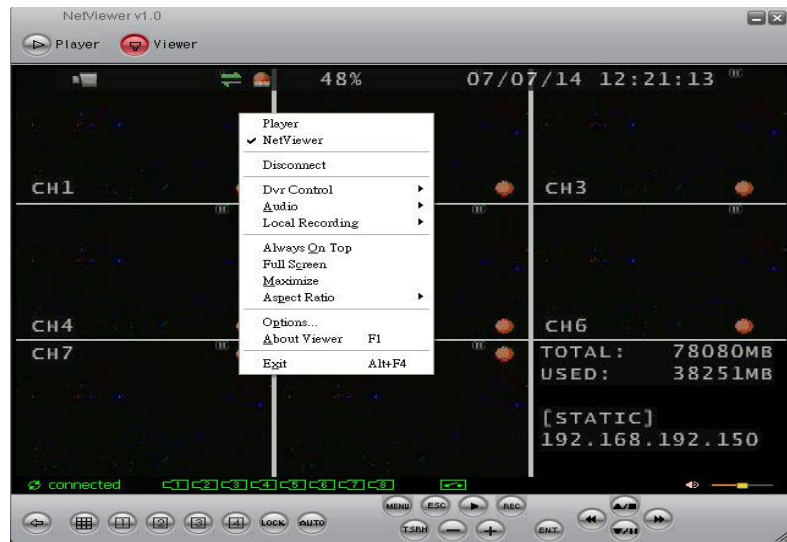7. DVR menu pop-up
8. Audio volume (PC site)

*Viewer control panel button is same as DVR keypad.

*Viewer and DVR display is synchronously.

*PTZ control is supported on viewer and control way is same as DVR keypad.

*PTZ control and movement speed depends on network streaming.

Viewer configures:


Player   Switch to backup file play mode

Netviewer   Switch to DVR network viewer

Disconnect   Network log out and connect canceled

Dvr Control   DVR function control

Audio   Audio volume adjust (PC site)

Local Recording   Viewing image record

Always On Top   Player or viewer always on top even other data folders open

Full Screen   Viewer change to full screen

Maximize   Full screen display

Aspect Ratio   Resolution 640 x 448 / 640 x 544 adjust

Options   Viewer function setup

                  Always on Top: Player or viewer always on top even other data folders open

                  Auto Reconnection: Reconnection if non artificial network disconnect.

                  Path for local recording: Please select a path of your PC.

About Viewer   Viewer version

Exit   Close viewer

File Player:
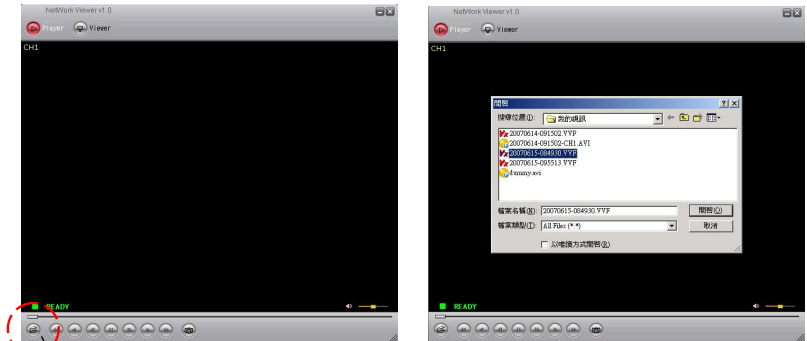
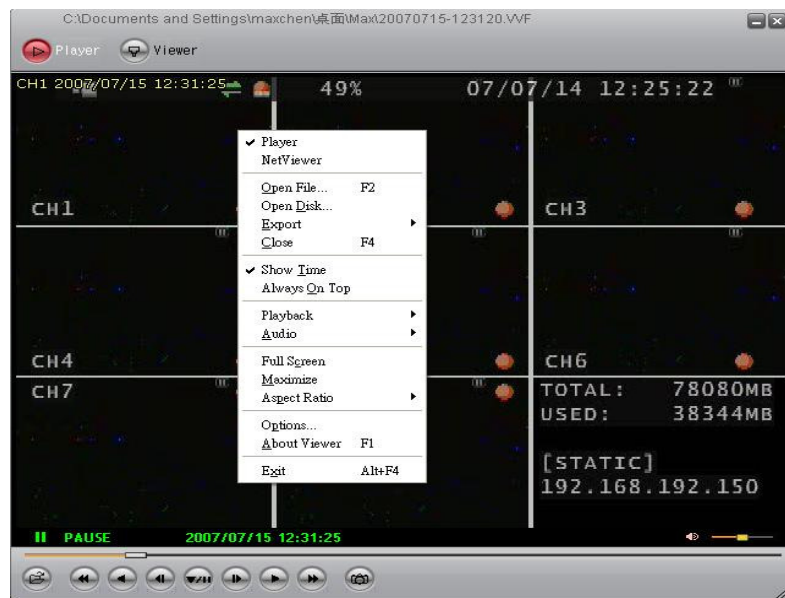Click browser to open file which you saved
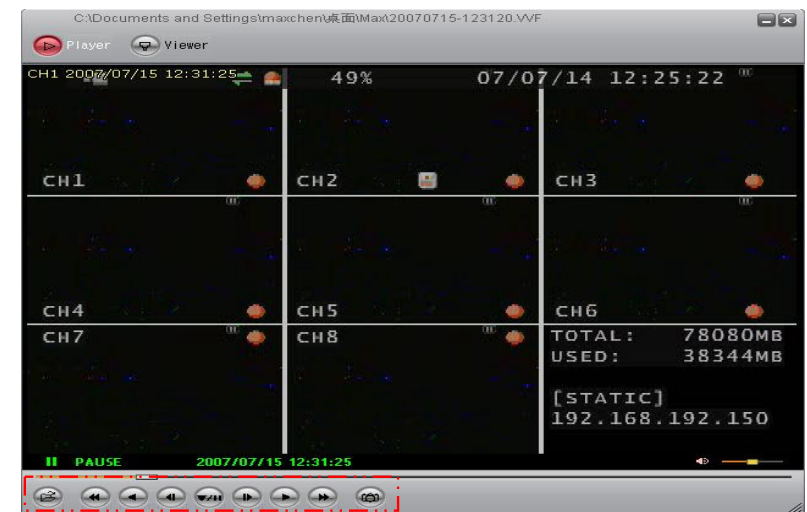
Player button

Open \ Fast Backward \ Play Reverse \ Previous Frame \ Pause \ Next Frame \ Play

Fast Forward \ Still Capture

1. DVR USB or net viewer backup file (*.VVF)only read in player

2. Local recording file only read in player, except transfer to AVI.

3. Backup file includes video and audio

Player Configure:

Player	Switch to backup file play mode
Netviewer	Switch to DVR network viewer
Open File	Open the backup file which saved in any path
Open Disk	Open the DVR hard disk which is installed to PC IDE slot
Export	Backup file to AVI files transform (Video + Audio). See AVI page
Close	Player Button control disable
Show time	Show the backup beginning time
Always on Top	Player always on top even other data folders opened
Playback	Play back mode and speed select. Same as Player button
Audio	Audio volume adjust (PC site)
Full screen	Player screen to full size
Maximize	Player to full of screen
Aspect Ratio	Player resolution adjust
Options	See Next page
About viewer	Version of viewer
Exit	Player and viewer exit

Options
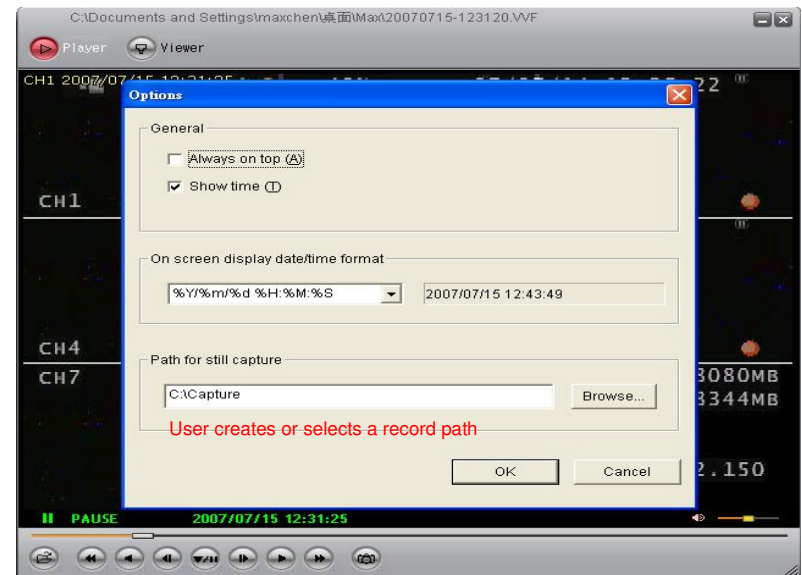
Always on top: Player always on top even other data folders opened

Show time: Show the PC time of when user start recording backup file
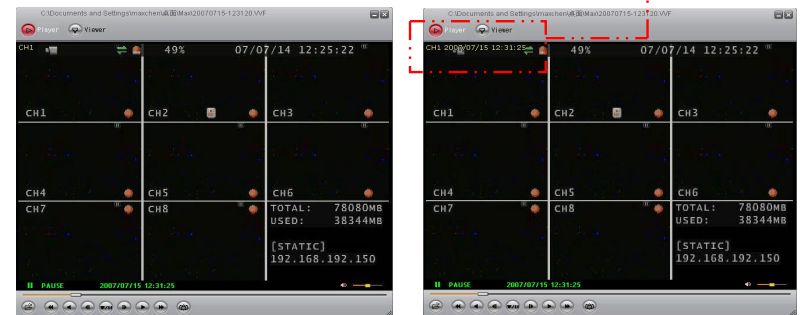
On Screen display date/time (Show time) format: Please select the date format you want.

%Y/%m/%d %H:%M:%S: 2007/06/15 15:32:29

%y/%m/%d %H:%M:%S: 07/06/15 15:32:29

%Y/%m/%d %p %I:%M:%S: 2007/06/15 PM 03:32:29

%y/%m/%d %p %I:%M:%S: 07/06/15 PM 03:32:29

%b %d %H:%M:%S %Y: JUN 15 15:32:29 2007

%b %d %p %I:%M:%S %Y: JUN 15 PM 03:32:29 2007

VVF file export to AVI
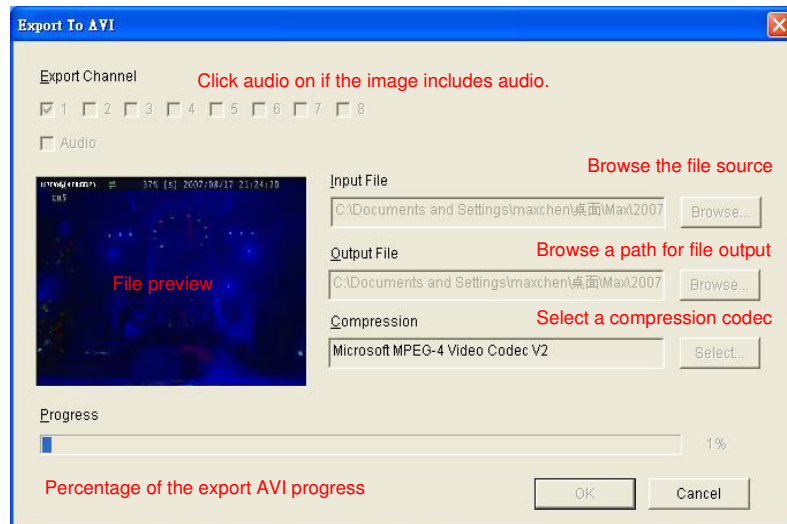
Users please wait until file export completed.

PTZ Control mode

Zoom -- / + : Lens, Near / Far

Menu: Call PTZ OSD

Enter: OSD value confirm
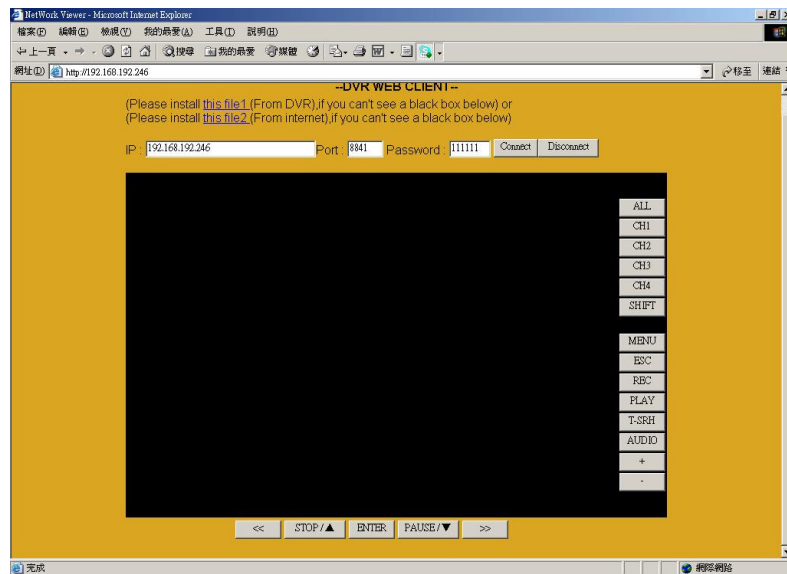
Channel: Select PTZ channel

Preset: Preset setup

Select preset 1 ~ 8, and then click SET to save. Click CALL to run preset.

Click AUTO to start all presets. Click STOP to terminate.

CLEAR, delete preset 1 ~ 8

IE browser:

IE control button is same as DVR keypad.

3. Before DVR IE connection, please download the ActiveX to DVR hard disk from CD-ROM, and then you can view DVR image via internet any PC.
   Steps: CD disk → ActiveX →USB pan drive → DVR (with hard disk) USB →
   Menu - System Set – Load Active-X Control → ENTER button
4. Also install ActiveX to your personal computer. Net viewer is packaged with ActiveX.exe.

Specification

Channel	8CH
Input	8 CH Inputs 1.0Vp-p, 75ohm unbalanced (BNC Type)
Output	Main monitor composite (BNC type) x 1
Horizontal Resolution	640x448 (NTSC) / 640x544 (PAL)
S/N Ratio	More than 40dB
Color	6.7 Million

Monitoring Method

Channel Display	Single / Quad channel / 9 split screen
Sequence Display	Available. 0 ~ 999 seconds.
Screen Quality	640(H)x 448(V) Active Pixels(NTSC); 640(H) x 544(V) Active Pixels (PAL)
Display Rate	240 fps (NTSC) / 200 fps (PAL)

Recording/ Play Function

Recording (Max) NTSC	Max 60 fps(NTSC); Max 50 fps(PAL)
Recording Resolution	640x224(NTSC); 640x272(PAL)
Record Quality	High, Normal, Low
Compressed Picture	Storage: MJPEG, network / internet: MPEG4
Recording Control	Auto / manual / schedule / motion / alarm
Playback Mode	Time list / event list / Date & Time search

Other Function

Operation Mode	Record / Play / Network
Motion Detect	16 x16 grids camera for all channel
Alarm	Alarm in x 8 / Relay out x 1
Back-Up	USB 1.1/2.0 memory and network remote backup
Storage	HDD x2
Audio Input	RCA x 1
Audio Output	RCA x 1
HDD Record Mode	Full stop / overwrite
Remote Backup	Through client application
PTZ Control	PELCO-D, PELCO-P, MERIT LI-LIN
Key Lock	Yes
Real Time clock (RTC)	Support NTP (Network Time Protocol)
Remote Control	Support PHILIPS RC5, NEC

Network Function

Ethernet	10 /100 Base-T
Web interface	Support licensed software AP
Network Connection	TCP/IP, PPPoE, DHCP, DDNS
Client Application	Display / playback / PTZ / DVR control
Power Supply	DC 12V / 5A
Weight	N.W./G.W. 3.06kg/3.68kg
Dimension	426(W) x 328.5(D) x 65(H) mm
Operating Temperature	41 ºF~104 ºF (5 ºC~+40 ºC)
Operating Humidity	Less than 90%